

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
1	Safety Criterion 4.5-4: Automatic fire extinguishing systems shall be included in all areas subject to loss of Safety Design Class systems, significant life safety hazards, or unacceptable program interruption, unless the Fire Hazards Analysis dictates otherwise.	Add the following: <u>For the RPP-WTP Project the determination of program interruption acceptability is made by the owner, BNFL, Inc.</u>	Reason for change: Clarification of responsibility for decisions involving economics. Justification: Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., the potential for program interruption is an economic issue within the purview of BNFL, in consultation with its underwriters. Is this change a reduction in AB commitment? No. This change is being made for clarification only. The requirement itself is unchanged. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change is being made for clarification only. The effectiveness of the fire protection program with respect to fire safety is unchanged. This change simply clarifies that decisions affecting cost and schedule belong to the facility owner.
2	Safety Criterion 4.5-15: The fire protection program will include: (1) organization, training, and responsibilities of the fire protection staff, including a trained and equipped fire brigade;	Revise to read: The fire protection program will include: (1) organization, training, and responsibilities of the fire protection staff, including a trained and equipped fire brigade <u>emergency services organization</u> ;	Reason for change: Clarification only; as currently stated, this safety criterion could be interpreted as requiring a dedicated fire brigade for the RPP-WTP facility. Justification: This change permits RPP-WTP to utilize the services of the Hanford Fire Department (HFD) to provide professional firefighting services as an alternative to a dedicated fire brigade for the facility. Is this change a reduction in AB commitment? No; this change merely provides flexibility in deciding who will provide the subject services. It does not change the scope of those services. Does this change reduce the effectiveness of AB programs, procedures, or plans? No; fire protection program requirements are unchanged. This change permits the use of HFD emergency services but does not change the scope of those services.
3	Safety Criterion 4.5-22: The Pre-Fire Plan should assign individual and alternate responsibilities for...assembling the site Fire Brigade, and if necessary, requesting Hanford Site fire department assistance,....	Revise to read: The Pre-Fire Plan should assign individual and alternate responsibilities for...assembling the <u>emergency services organization</u> site Fire Brigade, and if necessary, requesting Hanford Site fire department assistance,....	See the remarks for Item 2 above.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
4	SRD Section 4.5 Implementing Standards (DOE G-440.1, DOE-Std-1066-97, and NFPA 801): References to “DOE” or “DOE AHJ” or “AHJ”	Interpret as: “DOE Regulatory Unit (RU)” wherever these references refer to regulatory functions that have been assigned to the DOE Regulatory Unit.	Reason for change: To clarify the role of the Regulatory Unit (RU.) Justification: The unique role of the RU in regulating the RPP-WTP Project is not accounted for in the text of the various implementing standards and requires clarification to avoid confusion. Is this change a reduction in AB commitment? No. This change alters no requirements or commitments. It simply clarifies the role of the RU as the authority having jurisdiction for most situations involving fire safety. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change simply clarifies the existing regulatory relationship between BNFL and the RU with respect to fire safety.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
5	<p>DOE G-440.1, Section IV.4.16:</p> <p>The fire hazards analysis, including all assumptions, should be documented. When both an FHA and a SAR are developed for a facility, the developmental effort should be coordinated to the maximum extent possible to avoid duplication of effort. It is recognized, however, that because an FHA is based on the premise that a fire will occur and considers fire safety issues (property loss and program discontinuity potential) that are not normally considered in the SAR, the conclusions of the FHA may be more conservative than would normally be developed by a SAR alone. Nevertheless, the FHA and its conclusions should be addressed in the facility SAR in such a manner as to reflect all relevant fire safety objectives as defined in Paragraph 4.2.0.1 of DOE 420.1 and Section 2 of Attachment 1 of DOE 440.1.</p> <p>[For information: DOE Order 420.1-1995, Paragraph 4.2.0.1 states that <i>“The objectives of section 4.2 are to establish requirements for a comprehensive fire and related hazards protection program for facilities sufficient to minimize the potential for: (1) the occurrence of a fire or related event; (2) a fire that causes an unacceptable on-site or off-site release of hazardous or radiological material that will threaten the health and safety of employees, the public or the environment; (3) vital DOE programs suffering unacceptable interruptions as a result of fire and related hazards; (4) property losses from a fire and related events exceeding defined limits established by DOE; and (5) critical process controls and safety class systems being damaged as a result of a fire and related events.”</i>]</p>	<p>Revise to read:</p> <p>The fire hazards analysis, including all assumptions, should be documented. When both an FHA and a SAR are developed for a facility, the developmental effort should be coordinated to the maximum extent possible to avoid duplication of effort. It is recognized, however, that because an FHA is based on the premise that a fire will occur and considers fire safety issues (property loss and program discontinuity potential) that are not normally considered in the SAR, the conclusions of the FHA may be more conservative than would normally be developed by a SAR alone. Nevertheless, the FHA and its conclusions should be addressed in the facility SAR in such a manner as to reflect all relevant fire safety objectives as defined in Paragraph 4.2.0.1 of DOE 420.1 and Section 2 of Attachment 1 of DOE 440.1.</p> <p><u>For the RPP-WTP Project the relevant fire safety objectives of Paragraph 4.2.0.1 of DOE 420.1 are items (1), (2), and (5).</u></p>	<p>Reason for change: Clarification of the relevant fire safety objectives that should be reflected in the FHA and the SAR.</p> <p>Justification: Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., property loss and program discontinuity potential are economic issues within the purview of BNFL, in consultation with its underwriters. They are not fire safety issues.</p> <p>Is this change a reduction in AB commitment? No. The AB defines the safety basis for performance of the work. Since property loss and program discontinuity potential are economic issues not fire safety issues, removal of a requirement to discuss these issues in the FHA and the SAR cannot be a reduction AB commitment.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No, for the same reason as discussed above.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
6	DOE G-440.1, Section III.5.0: DOE facilities and sites should meet the applicable building code and National Fire Protection Association Codes and Standards, unless explicit written relief has been granted by DOE. The applicable codes and standards are those in effect when facility design commences ("code of record"). When significant modifications to a facility occur, the current edition of the code or standard should apply to the modification.	Add the following: <u>The applicable building code for the RPP-WTP Project is the 1997 Uniform Building Code (UBC).</u>	Reason for change: To identify the applicable building code. Justification: Required to clarify that the code in effect at the time that facility design commenced was the 1997 UBC. Is this change a reduction in AB commitment? No. This change merely provides additional information specific to the RPP-WTP Project to clarify the generic requirement of the implementing standard. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change merely provides additional information specific to the RPP-WTP Project to clarify the generic requirement of the implementing standard.
7	DOE G-440.1, Section III.6.2: Noncombustible or fire-resistive construction, where appropriate. Complete fire-rated barriers that are commensurate with the fire hazard to isolate hazardous occupancies and to minimize fire spread and loss potential consistent with defined limits as established by DOE.	Revise to read: Noncombustible or fire-resistive construction, where appropriate. Complete fire-rated barriers that are commensurate with the fire hazard to isolate hazardous occupancies and to minimize fire spread and loss potential consistent with defined limits as established by DOE.	Reason for change: To clarify that limits of loss potential that may apply to a DOE facility are not applicable to the RPP-WTP Project. Justification: Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., the limits of loss potential are established by BNFL and its underwriters. Is this change a reduction in AB commitment? No. This change is being made for clarification only. The subject criterion represents an economic rather than a safety objective. Since this criterion is not applicable to the RPP-WTP, its deletion cannot be a reduction in commitment. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change is being made for clarification only. Since the subject criterion is not applicable to the RPP-WTP, its deletion cannot alter the effectiveness of any program, procedure, or plan described in the Authorization Basis.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
8	DOE G-440.1, Section III.6.3: Automatic fire extinguishing systems throughout all significant facilities and in all areas subject to loss of safety class systems, significant life safety hazards, unacceptable program interruption, or fire loss potential in excess of defined limits.	Revise to read: Automatic fire extinguishing systems throughout all significant facilities and in all areas subject to loss of safety class systems, significant life safety hazards, <u>or unacceptable program interruption, or fire loss potential in excess of defined limits.</u> <u>The FHA may justify the omission of such systems based on safety considerations as approved by the AHJ.</u> <u>For the RPP-WTP Project the determination of program interruption acceptability is made by the owner, BNFL, Inc.</u>	Reason for change: To be consistent with the wording of SRD Safety Criterion 4.5-4. Justification: DOE considers a facility with a Maximum Possible Fire Loss (MPFL) in excess of \$1 million as being significant from a property protection standpoint (Reference DOE-Std-1066-97, Section 5.3.1.) Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., protection requirements based on property loss are established by BNFL and its underwriters. See also the remarks sections for Items 1 and 7 Addition of sentence referring to the FHA is consistent with governing Safety Criterion 4.5-4, which requires automatic fire suppression “unless the Fire Hazards Analysis dictates otherwise.” It is also consistent with the DOE equivalency concept described in DOE G-440.1 Section II and DOE-Std-1066-97 Section 1. Is this change a reduction in AB commitment? No. This change resolves conflicts between the governing Safety Criterion and the implementing standard, and clarifies the conditions for omission of automatic fire extinguishing systems . Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change resolves conflicts between the governing Safety Criterion and an implementing standards, and clarifies the conditions for omission of automatic fire suppression.
9	DOE G-440.1, Section III.6.4: Redundant fire protection systems in areas where safety class systems are vulnerable to fire damage and where no redundant safety capability exists outside the fire area. In new facilities, redundant safety class systems should be in separate fire areas. Redundant fire protection systems should also be provided in areas where the maximum possible fire loss (MPFL) exceeds limits established by DOE.	Revise to read: Redundant fire protection systems in areas where safety class systems are vulnerable to fire damage and where no redundant safety capability exists outside the fire area. In new facilities, redundant safety class systems should be in separate fire areas. Redundant fire protection systems should also be provided in areas where the maximum possible fire loss (MPFL) exceeds limits established by DOE.	Reason for change: To clarify that protection requirements based on property loss are not applicable to the RPP-WTP Project and to be consistent with the wording of SRD Safety Criterion 4.5-5. Justification: Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., protection requirements based solely on property loss potential are established by BNFL and its underwriters. Is this change a reduction in AB commitment? No. This change is being made for clarification only. The subject criterion represents an economic rather than a safety objective. Since this criterion is not applicable to the RPP-WTP, its deletion cannot be a reduction in commitment. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change is being made for clarification only. Since the subject criterion is not applicable to the RPP-WTP, its deletion cannot alter the effectiveness of any program, procedure, or plan described in the Authorization Basis.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
10	<p>DOE G-440.1, Section IV.4.5:</p> <p>An FHA should contain, but not be limited to, a conservative assessment of the following fire safety issues:</p> <ul style="list-style-type: none"> • Description of construction • Description of critical process equipment • Description of high-value property • Description of fire hazards • Description of operations • Potential for a toxic, biological and/or radiation incident due to a fire • Natural hazards (earthquake, flood, wind) impact on fire safety • Damage potential: Maximum Possible Fire Loss (MPFL) • Fire protection features • Protection of essential safety class systems • Life safety considerations • Emergency planning • Fire Department/Brigade response • Recovery potential • Security and Safeguards considerations related to fire protection • Exposure fire potential and the potential for fire spread between two fire areas • Effect of significant fire safety deficiencies on fire risk 	<p>Revise to read:</p> <p>An FHA should contain, but not be limited to, a conservative assessment of the following fire safety issues:</p> <ul style="list-style-type: none"> • Description of construction • <u>Identification of Important-to-Safety</u> • Description of critical process equipment • Description of high value property • Description of fire hazards • Description of operations • Potential for a toxic, biological and/or radiation incident due to a fire • Natural hazards (earthquake, flood, wind) impact on fire safety • Damage potential: Maximum Possible Fire Loss (MPFL) • Fire protection features • Protection of essential safety class systems • Life safety considerations • Emergency planning • Fire Department/Brigade response • Recovery potential • Security and Safeguards considerations related to fire protection • Exposure fire potential and the potential for fire spread between two fire areas • Effect of significant fire safety deficiencies on fire risk 	<p>Reason for change: To require information more appropriate to the RPP-WTP and to clarify that information related to property loss and recovery potential are not applicable to the RPP-WTP Project</p> <p>Justification: The term “critical process equipment” is not well defined for the RPP-WTP Project. By contrast the term “Important-to-Safety” is defined by the DOE regulatory documents, such as DOE/RL-96-0004. Identification of Important-to-Safety equipment is more meaningful and is consistent with the CAR Guidance (RL/REG-99-05). Since the RPP-WTP is to be a private facility, owned and operated by BNFL, Inc., protection requirements based on property loss and recovery potential are established by BNFL and its underwriters. Property value, property loss and recovery potential are not fire safety issues and the FHA need not address such issues.</p> <p>Is this change a reduction in AB commitment? No. These changes are being made for clarification or to enhance the usefulness of the FHA. The changes regarding property loss and recovery refer to economic rather than fire safety issues. Since property loss and recovery potential issues are not applicable to the RPP-WTP, their deletion cannot be a reduction in commitment.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. These changes are being made for clarification or to enhance the usefulness of the FHA. Since property loss and recovery potential issues are not applicable to the RPP-WTP, their deletion cannot alter the effectiveness of any program, procedure, or plan described in the Authorization Basis.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
11	<p>DOE G-440.1, Section IV.9.7:</p> <p>Because the Department does not benefit from or pay premiums for insurance coverage as does private industry, DOE has an obligation to provide protection for its facilities such that a fire will not result in an unacceptable program delay or property loss. Consequently, the Department considers any facility in excess of 5,000 square feet in ground floor area and any facility with a MPFL of \$1 million as warranting protection by an automatic fire suppression system. This is consistent with building code requirements and insurance industry practice. Additionally, when the MPFL exceeds \$50 million, a redundant fire protection system should be provided that, despite the failure of the primary fire protection system, will limit the loss to below \$50 million. Such redundant protection could be a fire-rated barrier system or a smoke detection system in conjunction with a fully capable fire department, among other options. A decision not to provide protection for such facilities would need to be thoroughly justified and approved by the DOE AHJ.</p>	Delete entire paragraph.	<p>Reason for change: Not applicable to the RPP-WTP Project</p> <p>Justification: Because RPP-WTP is a private facility, owned and operated by BNFL, Inc., the limits of loss potential are established by BNFL and its underwriters.</p> <p>See also the remarks sections for Items 7, 8, and 9.</p>
12	<p>DOE-Std-1066-97, Section 4 (Definitions):</p> <p>Authority Having Jurisdiction (AHJ) - The decision making authority in matters concerning fire protection. The DOE Head of Field Organization or designee is the final AHJ unless otherwise directed by the Cognizant Secretarial Officer.</p>	<p>Add the following:</p> <p><u>For the RPP-WTP Project, the designated AHJ is the DOE Regulatory Unit.</u></p>	See the remarks for Item 4.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
13	<p>DOE-Std-1066-97, Section 5.1:</p> <p>5.1 Protection to Limit Loss Potential</p> <p>5.1.1 When the Maximum Possible Fire Loss (MPFL) exceeds \$50 million, a redundant fire protection system should be provided that, despite the failure of the primary fire protection system, will limit the loss to acceptable levels as determined by the Authority Having Jurisdiction (AHJ).</p> <p>5.1.2 When the MPFL exceeds \$150 million, a redundant fire protection system and a 3-hour fire barrier should be provided to limit the MPFL to acceptable levels as determined by the AHJ.</p>	<p>Delete sections 5.1.1 and 5.1.2.</p>	<p>Reason for change: Not applicable to the RPP-WTP Project</p> <p>Justification: Because RPP-WTP is a private facility, owned and operated by BNFL, Inc., the limits of loss potential are established by BNFL and its underwriters.</p> <p>See also the remarks sections for Items 7, 8, and 9.</p>
14	<p>DOE-Std-1066-97, Section 5.3.1:</p> <p>All facilities of significance, including facilities where a fire could cause unacceptable off-site consequences to health and safety, should be protected by an automatic fire suppression system (usually a Wet Pipe Sprinkler System). A decision to install another type of fire suppression system should be based on engineering analysis performed by a fire protection engineer.</p> <p>DOE has, historically, considered an facility with an MPFL in excess of \$1 million as being significant from a property protection standpoint.</p>	<p>Revise to read:</p> <p>All facilities of significance, including facilities where a fire could cause unacceptable off-site consequences to health and safety, should be protected by an automatic fire suppression system (usually a Wet Pipe Sprinkler System),. A decision to <u>omit or to</u> install another type of fire suppression system should be <u>justified by the Fire Hazards Analysis, based on engineering analysis performed by a fire protection engineer.</u></p> <p>DOE has, historically, considered an facility with an MPFL in excess of \$1 million as being significant from a property protection standpoint.</p>	<p>See the remarks for Item 8.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
15	<p>DOE-Std-1066-97, Section 5.3.6:</p> <p>Standpipes should be installed in all structures having three levels or more above or below grade. Standpipe systems should be provided in other structures, such as those with extensive and complex interior layouts, where deemed necessary by the DOE Fire Protection AHJ. Standpipes should be designed and installed as Class 1 systems per NFPA 14.</p>	<p>Revise to read:</p> <p>Standpipes should be installed in all structures having three levels or more above or below grade. Standpipe systems should be provided in other structures, such as those with extensive and complex interior layouts, where deemed necessary by <u>the a qualified fire protection engineer, based on the results of the fire hazards analysis and the baseline needs assessment.</u> DOE Fire Protection AHJ. Standpipes should be designed and installed as Class 1 systems per NFPA 14.</p>	<p>Reason for change: To clarify design responsibilities.</p> <p>Justification: Because RPP-WTP will be a private facility, determination of the need for specific fire protection features is the responsibility of the owner rather than the DOE.</p> <p>Is this change a reduction in AB commitment? No. This change does not alter design requirements. It clarifies that the facility owner, via employment of a qualified fire protection engineer, is responsible for the design.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. It clarifies that the DOE AHJ (i.e., the Regulatory Unit) is not responsible for decisions involving the design of fire protection features. This change does not alter the regulatory oversight responsibilities of the RU.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
16	<p>DOE-Std-1066-97, Section 8.1:</p> <p>8.1 General Features</p> <p>Fire alarm systems should comply with NFPA 72 and have the following basic features:</p> <ul style="list-style-type: none"> • Transmission of signals to the responding DOE facility fire department alarm center and other constantly attended locations in accordance with NFPA 72. • Local alarms for the building or zone in alarm. • Visual alarms for the hearing impaired, where there are high noise levels, or where there are special process requirements as determined by the DOE Fire Protection AHJ. • The fire alarm control panel located near the main entrance or a protected location as determined by the AHJ. For buildings with multiple alarm zones, a zone alarm panel or a graphic zone alarm panel at the main entrance to the facility. • Supervisory devices for all critical functions except those (such as sprinkler system control valves) that are locked or sealed. (Refer to NFPA Standard 13. 	<p>Revise to read:</p> <p>8.1 General Features</p> <p>Fire alarm systems should comply with NFPA 72 and have the following basic features:</p> <ul style="list-style-type: none"> • Transmission of signals to the responding DOE facility fire department alarm center and other constantly attended locations in accordance with NFPA 72. • Local alarms for the building or zone in alarm. • Visual alarms for the hearing impaired, where there are high noise levels, or where there are special process requirements as determined by <u>the a qualified fire protection engineer.</u> DOE Fire Protection AHJ. • The fire alarm control panel located near the main entrance or a protected location as determined by <u>a qualified fire protection engineer.</u> the AHJ. For buildings with multiple alarm zones, a zone alarm panel or a graphic zone alarm panel at the main entrance to the facility. • Supervisory devices for all critical functions except those (such as sprinkler system control valves) that are locked or sealed. (Refer to NFPA Standard 13. 	See the remarks for Item 15.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
17	<p>DOE-Std-1066-97, Section 9.5.1:</p> <p>Fire Barrier Penetration Seals - Fire barrier penetration seals should comply with NFPA 101, Chapter 6. Penetration seal materials and assemblies should be tested for their fire resistance and listed by UL or similar nationally recognized testing laboratories,- or should be approved by FM.- Where fire-rated assemblies (walls, floor-ceilings, roof-ceilings) are either partially or fully penetrated by pipes, ducts, conduits, raceways or other such building elements, fire barrier penetration material should be placed in and around the penetrations to maintain the fire resistance rating of the assembly.</p>	<p>Add the following:</p> <p><u>The fire resistance of special or unique penetration assemblies, such as lead glass windows and shield wall penetrations, may be based on past qualification testing or an equivalency evaluation.</u></p>	<p>Reason for change: Clarification only.</p> <p>Justification: The RPP-WTP facility is expected to have unique penetration configurations that may be impractical to test. This change clarifies that alternate approaches that provide a comparable level of safety, as described in Section 1 of DOE-Std-1066-97, may be used.</p> <p>Is this change a reduction in AB commitment? No. This change does not alter the requirement to provide fire barrier penetration seals. It merely elaborates on other acceptable means of demonstrating the adequacy of unique penetration assemblies.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. Establishment and maintenance of effective fire barriers, including penetration seals, is one aspect of the fire protection program. This change is a reminder that use of an equivalency approach for qualification of penetration assemblies can be a valid means of demonstrating fire barrier effectiveness.</p>
18	<p>DOE-Std-1066-97, Section 10.4:</p> <p>In those areas where an accidental breach of a primary confinement system could expose personnel to radioactive material, a distance of 75 feet, as measured by the method in NFPA 101, should be the maximum travel distance to ensure that personnel can exit through the next confinement.</p>	<p>Add the following:</p> <p><u>The 75-foot travel distance may be exceeded in areas not normally occupied by personnel, where plant equipment alone is located.</u></p>	<p>Reason for change: To clarify a logical interpretation of the requirement.</p> <p>Justification: If an area is not normally occupied an accidental breach of a primary confinement system cannot expose personnel to radioactive material.</p> <p>Is this change a reduction in AB commitment? No. This change is only intended to confirm the RPP-WTP Project interpretation of this requirement. It does not change the requirement.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. This change is only intended to confirm the RPP-WTP Project interpretation of this requirement. It does not change the requirement.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
19	DOE-Std-1066-97, Section 10.6.3: Exit requirements for toxic and explosive environments should be as determined by the AHJ. In addition, for explosives environments, exits should reflect the criteria contained in the DOE Explosives Safety Manual (DOE M 440.1-1).	Revise to read: Exit requirements for toxic and explosive environments should be as determined by <u>a qualified fire protection engineer</u> , the AHJ . In addition, for explosives environments, exits should reflect the criteria contained in the DOE Explosives Safety Manual (DOE M 440.1-1).	Reason for change: To clarify design responsibilities and remove an unnecessary reference. Justification: Because RPP-WTP will be a private facility, determination of the need for specific fire protection features, in this case exit requirements, is the responsibility of the owner rather than the DOE. Also, the DOE Explosives Safety Manual applies to environments involving munitions, and therefore is not applicable to the RPP-WTP. Is this change a reduction in AB commitment? No. This change does not alter commitments to satisfy exit requirements, such as those defined by the Life Safety Code, NFPA 101. It clarifies that the facility owner, via employment of a qualified fire protection engineer, is responsible for assuring that exits for particularly hazardous locations are satisfactory. Since the DOE Explosives Safety Manual is not applicable to the RPP-WTP, removal of a reference to it cannot be a reduction in commitment. Does this change reduce the effectiveness of AB programs, procedures, or plans? No. It clarifies that the DOE AHJ (i.e., the Regulatory Unit) is not responsible for decisions involving the design of fire protection features. This change does not alter the regulatory oversight responsibilities of the RU. Since the DOE Explosives Safety Manual is not applicable to the RPP-WTP, removal of a reference to it cannot reduce the effectiveness of programs, procedures, or plans described in the Authorization Basis.
20	DOE-Std-1066-97, Section 11.3: Where multi-tiered cable trays are installed in configurations that represent a significant fire hazard (as determined by the FHA), they should be provided with fire protection/ suppression as determined by the AHJ.	Revise to read: Where multi-tiered cable trays are installed in configurations that represent a significant fire hazard (as determined by the FHA), they should be provided with fire protection/ suppression as determined by <u>a qualified fire protection engineer, consistent with the results of the FHA</u> , the AHJ .	See the remarks for Item 15.

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
21	<p>DOE-Std-1066-97, Section 11.4:</p> <p>Where required by the SAR, critical facilities should be served by dedicated, redundant electric circuits. The two services should be separated by 4-hour fire-rated construction and should be served from separate sources. In lieu of providing two separate services, a single service supplied from a loop-type transmission or distribution system having sectionalizing features may be provided when the reliability of the single service proves adequate when considered in conformance with IEEE 399 and IEEE 493. Locations where fire can damage both normal and emergency power should be protected by redundant fire protection systems.</p>	<p>Revise to read:</p> <p>Where required by the SAR, critical facilities should be served by dedicated, redundant electric <u>power services</u> circuits. <u>External to the buildings served, t</u>The two services should be separated by 4-hour fire-rated construction and should be served from separate sources. <u>Separation may be less than 4-hour (minimum 2-hour) where the services are protected by automatic fire detection and suppression systems and justification is provided in the FHA.</u> In lieu of providing two separate services, a single service supplied from a loop-type transmission or distribution system having sectionalizing features may be provided when the reliability of the single service proves adequate when considered in conformance with IEEE 399 and IEEE 493. Locations where fire can damage both normal and emergency power should be protected by redundant fire protection systems.</p>	<p>Reason for change: Editorial changes for clarification, removal of material that does not apply to RPP-WTP and identification of equivalent protection requirements.</p> <p>Justification: The term “power services” is more consistent with the sentence that follows. Clarification is needed that the requirement applies to site power supplies, not to cable routing within the buildings served (For the RPP-WTP Project, separation requirements for electrical systems are defined by SRD safety criterion 4.4-10 or dictated by the results of hazards evaluation.) Two-hour fire barrier separation combined with automatic fire detection and suppression provides a level of safety equivalent to a 4-hour barrier.</p> <p>Is this change a reduction in AB commitment? No. It is BNFL’s understanding that this requirement is intended to apply to separation of electrical services within the site but outside of buildings housing the loads served. For example, it is not intended to apply to raceway separation inside the process buildings, which are governed by other requirements. Based on that understanding, the editorial changes are required for clarification and do not alter the commitment. The use of minimum 2-hour fire barrier separation combined with automatic fire detection and suppression will provide a level of safety equivalent to a 4-hour barrier, because the suppression system will control or extinguish a fire, and the detection system will result in manual intervention to control and extinguish the fire within two hours. This approach is consistent with the direction in the last sentence of this paragraph to provide protection “by redundant fire protection systems.” Thus, this changes does not represent a reduction in commitment.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No, for the same reasons discussed above.</p>
22	<p>DOE-Std-1066-97, Section 12.4:</p> <p>Process furnaces should be provided with a system for automatically shutting off the gas and purging with inert gas in the event of power failure, loss of coolant water, loss of exhaust ventilation, overtemperature, or detection of hydrogen in the vicinity of the furnace. (See FM Data Sheets for additional guidance.)</p>	<p>Delete this section.</p>	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: There are no gas-fired process furnaces in the RPP-WTP</p> <p>Is this change a reduction in AB commitment? No. Since this requirement is not applicable to RPP-WTP, its deletion cannot be a reduction in commitment.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. Since this requirement is not applicable to RPP-WTP, its deletion cannot alter the effectiveness of programs, procedures, or plans described in the Authorization Basis.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
23	DOE-Std-1066-97, Section 13.2: Plutonium Processing and Handling Facilities	Delete this section	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not a Plutonium Processing and Handling Facility.</p> <p>Is this change a reduction in AB commitment? No. Since this requirement is not applicable to RPP-WTP, its deletion cannot be a reduction in commitment.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No. Since this requirement is not applicable to RPP-WTP, its deletion cannot alter the effectiveness of programs, procedures, or plans described in the Authorization Basis.</p>
24	DOE-Std-1066-97, Section 13.3: Plutonium Storage Facilities (PSF)	Delete this section	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not a Plutonium Storage Facility.</p> <p>See also the remarks for Item 23.</p>
25	DOE-Std-1066-97, Section 13.4: Enriched Uranium Storage Facilities (EUSF)	Delete this section.	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not an Enriched Uranium Storage Facility.</p> <p>See also the remarks for Item 23.</p>
26	DOE-Std-1066-97, Section 13.5: Uranium Processing and Handling Facilities	Delete this section.	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not a Uranium Processing and Handling Facility.</p> <p>See also the remarks for Item 23.</p>
27	DOE-Std-1066-97, Section 13.6: Reprocessing Facilities	Delete this section.	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not a Fuel Reprocessing Facility.</p> <p>See also the remarks for Item 23.</p>
28	DOE-Std-1066-97, Section 13.7: Uranium Conversion and Recovery Facilities	Delete this section.	<p>Reason for change: Not applicable to the RPP-WTP.</p> <p>Justification: The RPP-WTP is not a Uranium Conversion and Recovery Facility.</p> <p>See also the remarks for Item 23.</p>

RPP-WTP Specific Tailoring of Safety Requirements Document (SRD) Fire Safety Criteria and Associated Implementing Standards

ABAR Item	SRD Criteria or Implementing Standard Text	RPP-WTP Specific Tailoring (Underline = Add; Strikeout = Delete)	Remarks
29	<p>NFPA 801-1995, Paragraph 3-8:</p> <p>3-8 Interior Finish.</p> <p>3-8.1 Interior finish in areas processing or storing radioactive materials shall be noncombustible and, where practicable, shall be nonporous for ease of decontamination.</p> <p>3-8.2 Interior finish in areas not critical to the processing of radioactive materials shall be Class A or Class B in accordance with NFPA 101⁰, <i>Life Safety Code</i>⁰.</p>	<p>Revise to conform to NFPA-801-1998, Paragraph 3-8:</p> <p>3-8 Interior Finish.</p> <p>Interior finish in areas processing or storing radioactive materials shall be limited-combustible and, where practicable, shall be nonporous for ease of decontamination.</p>	<p>Reason for change: To conform to the revised NFPA standard.</p> <p>Justification: On the RPP-WTP Project, liquid radioactive waste is contained within tanks and piping systems and is not stored in the open. Where there is a possibility of a leak or spill, it is planned to provide a noncombustible stainless steel cladding for surfaces that may come into direct contact with the waste. Elsewhere, it is planned to use coatings of limited combustible material to seal the concrete and facilitate decontamination.</p> <p>Is this change a reduction in AB commitment? Yes. The 1995 version of NFPA Standard 801 requires that if coatings are used, they must be totally noncombustible. Since many decontaminable coatings contain some combustible constituent, such coatings could not be used. Adopting the 1998 version of NFPA Standard 801 for this paragraph, to permit the use of limited-combustible coatings, could be interpreted as a reduction in commitment because the presence of these coatings will increase by a small amount the quantity of combustible material in the affected areas. As with any other combustible or limited-combustible material, these coatings must be evaluated in the fire hazards analysis, but it is believed that their presence will have an insignificant effect on the safety of the RPP-WTP.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? Yes. The effectiveness of the fire protection program is theoretically reduced by the use of limited-combustible coatings rather than noncombustible coatings, but such effects are believed to be insignificant. To the extent that this change encourages the use of limited-combustible coatings for surfaces that might otherwise be left uncoated, the effectiveness of future decontamination and decommissioning activities is enhanced.</p>
30	<p>NFPA 801-1995, Chapter 6, Referenced Publications, Section 6-1.1, NFPA Publications (excerpts):</p> <p>NFPA 70, <i>National Electrical Code</i>, 1993 edition.</p> <p>NFPA 780, <i>Lightning Protection Code</i>, 1992 edition.</p>	<p>Revise to read:</p> <p>NFPA 70, <i>National Electrical Code</i>, <u>1996</u> 1993 edition.</p> <p>NFPA 780, <i>Lightning Protection Code</i>, <u>1995</u> 1992 edition.</p>	<p>Reason for change: To resolve a conflict between implementing standard NFPA 801-1995 and SRD safety criteria 4.3-2 and 4.4-12, which reference later editions of these two codes.</p> <p>Justification: The SRD references two difference editions of the same NFPA code. It is appropriate to reference the later editions to resolve this conflict.</p> <p>Is this change a reduction in AB commitment? No, this change is required for clarification. This change simply resolves a conflict between SRD references to two NFPA standards.</p> <p>Does this change reduce the effectiveness of AB programs, procedures, or plans? No, this change is required for clarification. This change simply resolves a conflict between SRD references to two NFPA standards.</p>

